IN THE UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

EGENERA, INC.,	
Plaintiff,	**Civil Action No. 1:16-cv-11613-RGS**
v.	
CISCO SYSTEMS, INC.,	**JURY TRIAL**
Defendant.	

<u>EGENERA'S PROPOSED FINDINGS OF FACTS AND CONCLUSIONS OF LAW REGARDING INVENTORSHIP OF THE '430 PATENT</u>

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I. INTRODUCTION

The ’430 patent is presumed valid and Peter Schulter is presumed not to be an inventor. The question before the Court is whether Cisco proved by *clear and convincing evidence* that Mr. Schulter conceived of a novel structure for the “logic to modify . . . to transmit” term. While Egenera presented five witnesses and documents establishing conception before Mr. Schulter joined Egenera, the burden remained with Cisco to prove that Peter Schulter is an inventor.

Cisco claimed that Mr. Schulter conceived of the virtual LAN proxy—a software component of the Court’s “logic to modify” structure—that acts on behalf of the virtual LANs. Dkt. 143 at 9; Dkt. 85 at 19. The Court’s complete structure—“virtual LAN server 335, virtual LAN proxy 340, and physical LAN driver 345”—is responsible for receiving, modifying, and preparing messages for transmission, respectively. Each component is software code running on the control node of the claimed platform. *Id.* This combination uses a three-step algorithm for modifying messages for transmission to the external communication network:

1. The virtual LAN server receives and identifies messages to be sent to the external network and passes those messages to the virtual LAN proxy;
2. The virtual LAN proxy modifies the message for transmission by, *e.g.*, replacing the internal MAC address with the MAC address of the physical LAN card; and
3. The physical LAN driver forwards the message out through the physical LAN card to the external communication network.

Id. The virtual LAN server and physical LAN driver perform modification-related functions, but, unlike the virtual LAN proxy, do not actually modify messages. *Id.*; Jeffay at 2-100:7–18.

Cisco failed to prove by clear and convincing evidence that Peter Schulter conceived of code for performing the steps in that order. The name assigned to code that performs a step, *i.e.*, whether called “virtual LAN proxy” or “simulated router,” is irrelevant; the question is whether Mr. Schulter conceived of the idea of using code for performing the steps in that order. *See* Jeffay at 2-72:23–73:4. Internal Egenera documents pre-dating Mr. Schulter’s tenure corroborate

the inventors' earlier conception of the message modification function and structure. The structure for performing the claimed function was known outside of Egenera as well.

Cisco appears to now contend that Mr. Schulter invented components of the virtual LAN server and/or physical LAN driver that perform functions *other than* modifying messages for the purposes of transmitting them externally: routing messages *coming in* from the external network to the internal network, preventing sniffing, and modifying headers unrelated to external transmission. But because the canons of claim construction require that only the claimed function performed by the structure is part of the claim, the question is whether Mr. Schulter conceived of the virtual LAN server, virtual LAN proxy, or physical LAN driver for modification of messages *for the purpose of transmitting messages externally*. Other functions are a red-herring.

Cisco's positions on the "logic to modify" limitation and its conception have been a moving target throughout the litigation:

Apr. 2017	Cisco argues at the USPTO: (1) no claim construction is required; and (2) the provisional application (copied from the September 2000 corroboration document) is missing support for certain terms, but Cisco does not argue "logic to modify" term lacks support in the provisional. (JX75 at 7–8, 9; JX78)
June 2017	Cisco argues in its invalidity contentions that there is a lack of support for "logic to modify" in the '430 patent. (Manca at 3-95:9–14)
Sep. 12, 2017	Cisco proposes to construe the "logic to modify" term as requiring the virtual LAN server and virtual LAN proxy structure. (Manca at 3-95:15–19)
Oct. 2017	Cisco contends "the virtual LAN proxy receives messages from the virtual LAN server, modifies them, and transmits them to the external communication network via the physical LAN interface (driver)" and the virtual LAN proxy modifies the "messages bound for the external communication network" by replacing "the internal format MAC address with the MAC address of the physical Ethernet devices 129 as the source MAC address." (Dkt. 65 at 23)
Mar. 16, 2018	Cisco files an amended Answer following the Court's February 5, 2018 claim construction, contending that "Phil Auld and Peter Schulter were inventors of the '430 patent, but neither is currently a named inventor." (Dkt. 103 at 14)
Aug. 2018	Cisco argues "Peter Schulter conceived of the virtual LAN proxy required by the Court's construction" by November 7, 2000. (Dkt. 143 at 9)

Egenera investigated the conception date in response to Cisco's IPR petition and has consistently maintained that Mr. Schulter is not an inventor of the '430 patent:

July-Aug. 2017	Egenera investigated the conception date of the invention in response to Cisco's IPR petition, and for the first time had reason to re-evaluate the named inventors. (Manca at 3-87:25–88:9, 3-91:7–93:8)
Aug. 16, 2017	Egenera filed its response to the IPR petition demonstrating, through fact and expert testimony, that the provisional application—which was copied from the September 2000 Specification—supported the claims. (JX76 at 5–36, 48–55; JX76 at Exhibit EGRA-2003; JX78)
Sep. 11, 2017	Egenera petitioned the PTO for inventorship correction because it was "obvious to everybody" and as a result of its investigation "there was really no disagreement whatsoever" that Peter Schulter "shouldn't be named as an inventor on the '430 patent." (JX07; Manca at 3-93:9–94:21, 3-99:1–6; Geng at 3-18:17–23)
Oct. 2017	Egenera disputed that the "logic to modify" term is means-plus-function (Dkt. 66 at 15-18), but acknowledged that if so construed, the corresponding structure is the control node (*id.* at 19). The virtual LAN proxy, virtual LAN server, and physical LAN interface are part of the "networking software architecture" of the control node (JX01 at 2:26–28, 6:40–47) and the control node is described in the September 2000 Specification (JX15)

II. LAW OF INVENTORSHIP

1. A patent is presumed valid. 35 U.S.C. § 282. A defendant must meet "the high bar" of "the clear and convincing standard . . . to rebut the presumption of validity." *Commil USA, LLC v. Cisco Sys.*, 135 S. Ct. 1920, 1929 (2015). A party seeking to invalidate a patent for nonjoinder "must meet the heavy burden of proving its case by clear and convincing evidence." *Nartron Corp. v. Schukra U.S.A., Inc.*, 558 F.3d 1352, 1356 (Fed. Cir 2009) (citation omitted).

2. A person is "a joint inventor only if he contributes to . . . conception." *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1359 (Fed. Cir. 2004). "Conception is the touchstone of inventorship, the completion of the mental part of invention. It is the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention." *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1227-28 (Fed. Cir. 1994).

3. Inventorship "is determined by contribution to the claims, not to the specification." *Intermec Techs. Corp. v. Palm Inc.*, 738 F. Supp. 2d 522, 563 (Del. 2010). By the same token, "invention turns on conception, not reduction to practice." *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs.*, 670 F.3d 1171, 1201 (Fed. Cir. 2012). "[T]he test for conception is whether the inventor had an idea that was definite and permanent enough that one skilled in the art could understand the invention." *Burroughs*, 40 F.3d at 1228. "[O]ne does not qualify as a joint inventor by merely assisting the actual inventor after conception of the claimed invention." *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998).

4. Contributing to means-plus-function structure is insufficient for inventorship if it "was simply a reduction to practice of the sole inventor's broader concept." *Ethicon*, 135 F.3d at 1463.

5. A joint inventor must "do more than merely explain to the real inventors well-known concepts and/or the current state of the art." *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998). "One who simply provides the inventor with well-known principles or explains the state of the art" is not a joint inventor. *Ethicon*, 135 F.3d at 1460 (quotation omitted); *see also Caterpillar Inc. v. Sturman Indus., Inc.*, 387 F.3d 1358, 1377 (Fed. Cir. 2004) (a joint inventor "requires more than merely exercising ordinary skill in the art—a person will not be a co-inventor if he or she does no more than explain to the real inventors concepts that are well known in the current state of the art" (quotation omitted)); *Sewall v. Walters*, 21 F.3d 411, 416 (Fed. Cir. 1994); *CardiAQ Valve Techs., Inc. v. Neovasc Inc.*, 708 Fed. Appx. 654, 660 (Fed. Cir. 2017) ("[C]ontribution of public knowledge available to a person of ordinary skill, which could readily have been acquired by the named inventor independently, does not make one a co-inventor.").

6. Authorship "by itself does not raise a presumption of inventorship." *In re Katz*, 687 F.2d 450, 455 (C.C.P.A. 1982); *see also Yeda Research & Dev. Co. v. ImClone Sys.*, 443 F. Supp. 2d

570, 603 n.55 (S.D.N.Y. 2006).

7. Courts reject improper inventorship claims where an allegedly omitted inventor denies inventorship. *E.g.*, *Cook Biotech, Inc. v. Acell, Inc.*, 460 F.3d 1365, 1371, 1381 (Fed. Cir. 2006) (holding failure "to present clear and convincing evidence" of "contribut[ion] in some significant manner to the conception" based in part on the person filing "papers under oath with the PTO in which he denied inventorship"); *Mueller Brass Co. v. Reading Indus., Inc.*, 352 F. Supp. 1357, 1374 (E.D. Penn. 1972) (holding "it would be impossible on the record before the Court to find by clear and convincing evidence that [he] was a non-joined co-inventor" when the allegedly omitted inventor "has repeatedly disclaimed any significant role"); *Pandora Jewelry, LLC v. Chamilia, LLC*, No. CCB-06-600, 2008 U.S. Dist. LEXIS 61064, *18-19 (D. Md. Aug. 8, 2008) (holding no invalidity for nonjoinder where none of the individuals "are claiming to be omitted co-inventors"). Indeed, Egenera has not identified any case where a court has found a patent invalid for non-joinder where the allegedly omitted inventor denies inventorship.

8. For a means-plus-function construction, structure is limited to that necessary to perform the claimed function; no other functions performed by that structure are to be read into the claim. *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1097 (Fed. Cir. 2008) (quotation omitted).

III. FINDINGS OF FACT

A. Filing of the Provisional and Non-Provisional Patent Applications

9. In September 2000, Max Smith, a named inventor on the '430 patent and Egenera's Chief Architect, authored the "Egenera Interframe I/O Architecture" ("September 2000 Specification"). JX15 at 1; Smith at 3-33:8–10, 3-34:10–15; JX74; Dkt. 207 ("Stip.") ¶7.

10. On April 20, 2001 (seven months after the September 2000 Specification), Egenera filed a provisional patent application. JX05 at 1; JX74; Stip. ¶13. The provisional application is largely copied from the September 2000 Specification, but also adds a Background, Hardware

Overview, and Software Overview section on pages 1–2 and a Benefits section on pages 21–22. *Compare* JX05 *with* JX15; Manca at 3-76:15–77:9. The "new" sections reference failover technology conceived of by Peter Schulter (and others) and claimed in the '044 patent. JX05 at 3-4 (highlighted in green); Manca at 3-76:25–77:9, 3-87:17–24; *see generally* JX-10.

11. On January 4, 2002 (nine months after the filing of the provisional application), Egenera filed four non-provisional patent applications, each claiming priority to the provisional application, including the applications that lead to: (1) the '430 patent (claiming the overall system); (2) the '044 patent (claiming the failover implementation); (3) the '390 patent (claiming the address resolution protocol (ARP) implementation); and (4) an invention that did not result in a patent. JX01, JX10; JX11; JX74; Geng at 3-17:10–18:9; Manca at 3-78:17–80:7; Stip. ¶¶15-16.

12. The applications that led to the '430, '044, and '390 patents used the same specification (including figures and textual description) but claimed different inventions. JX01, JX10; JX11; Geng at 3-17:10–18:9; Manca at 3-78:17–80:7. Egenera originally planned to file one application but ended up separating it into four because of the breadth of the application. Manca at 3-78:2–80:13; Smith at 3-42:7–19. The common specification was drafted by prosecution counsel based on product documentation provided by Egenera. *Id*. When Egenera split the single application into four, it "made the mistake of not closely reviewing the subset of claims that made it into the '430 patent" when listing appropriate inventors. *Id.* All originally-named inventors (including Mr. Schulter) assigned the patent applications to Egenera. JX01; JX06; Manca at 3-74:3–5.

B. The '430 Patent

13. The Court's construction of "logic to modify" requires "virtual LAN server 335, virtual LAN proxy 340, and physical LAN driver 345 and equivalents for messages to the external communications network." Dkt. 85 at 19, 26. Each is part of the "networking software architecture" of the control node. JX01 at 2:26–28 (referencing Figs.3A-B), 6:39-47.

14. The ’430 patent explains that the virtual LAN proxy performs the actual modification of the received messages. JX01 at 18:41–49; Dkt. 85 at 19. The claimed modification function performed by the virtual LAN proxy for transmission of messages to an external network are: (1) the conversion of an internal MAC address to a single, shared external MAC address for transmission; or (2) tag modification. JX01 at 18:41–49; Dkt. 85 at 19; Dkt. 199 at 14–16.

15. Dr. Jones and Dr. Jeffay agreed that the virtual LAN server receives outgoing messages and delivers the messages to the virtual LAN proxy for MAC address modification. Jeffay at 2-100:12–18; Jones at 3-122:2–12; *see also* JX01 at 18:37–44; Dkt. 65 at 22–23; Dkt. 85 at 19. The virtual LAN server plays no role in the actual modification of messages leaving the Interframe. Schulter at 1-122:13–123:1; Manca at 3-86:13–19; Jones at 3-121:13–22.

16. The virtual LAN proxy hands off the outgoing messages to the physical LAN driver for transmission and the physical LAN driver delivers the messages to the external network. JX01 at 19:7–13, 23–24; Dkt. 65 at 22–23; Dkt. 85 at 19.

C. Conception of the Function and Structure for Modifying Messages for Transmission to the External Communication Network

1. Egenera Conceived of Interframe Components by June 2000

17. Egenera was founded in March 2000 to develop the Interframe platform (later called BladeFrame) to simplify data centers by managing compute, network, and storage. Geng at 2-149:2–22, 2-151:18–24. By June 2000, most inventors had joined Egenera and were designing and developing Interframe. Manca at 3-73:15–24; JX74; Geng at 2-153:25–154:10.

18. During summer 2000, the work environment at Egenera was urgent and collaborative. Geng at 2-154:11–23; Manca at 3-74:6–13. Everyone was spending as many hours as they could working on the Interframe—Egenera’s only product. *Id.* The process leading up to conception involved lots of meetings, brainstorming sessions, whiteboard sessions, and individual work. *Id.*

19. Two inventors, Ewan Milne and Paul Curtis, authored "The Egenera Interframe: A New Architecture" ("June 2000 Specification"). Stip. ¶6; JX13. The June 2000 Specification represented the state of the Interframe design as of June 30, 2000 and is reflected in Scott Geng's architecture diagram (JX69). Geng at 2-155:25–167:3; Jones at 3-126:22–25; JX69.

20. The June 2000 Specification describes several major components of the Interframe later patented by Egenera, including the application processing modules ("AP Modules"—compute resources that correspond to the claimed "computer processors"), the Interframe Controller modules ("IFC Modules"—the "brains" of the system corresponding to the claimed "control node"), the yet-to-be-defined "Interconnect" (the internal communication network) linking the AP Modules and IFC Modules, and the connection of the Interframe system to external LAN and SAN networks. Geng at 2-157:1–163:23; JX13 at 2–3, 5–10.

21. The external IFC Module connections used industry standard Ethernet and Fiber Channel interfaces used for all communications entering and leaving the Interframe. Geng at 2-161:14–162:1, 2-162:4–18, 2-165:3–25, 2-166:6–167:3; JX13 at 2, 5.

22. For messages transmitted from inside the Interframe to the external network, the June 2000 Specification identified code on the IFC Module operating as the message passing or handling interface. Geng at 2-163:25–164:20; JX13 at 2, 5, 9.

2. Egenera Defined the Inventive Architecture by September 29, 2000

23. The remaining inventors joined Egenera in July 2000. Geng at 2-167:16–168:1; Manca at 3-73:22–74:2. The inventors continued meeting, brainstorming, white-boarding, and defining open architectural issues recorded in the June 2000 Specification through the end of September 2000. Geng at 1-43:4–14, 2-168:2–16; Manca at 3-74:6–13.

24. To memorialize this work, Max Smith authored "Egenera Interframe I/O Architecture" ("September 2000 Specification") to define the high-level architecture of the Interframe. Stip. ¶7;

Smith at 3-52:16–23; JX15. He drafted the document because as Chief Architect, he was responsible for documenting the architecture and he wanted the team to have a document to work with while he was on vacation. Smith at 3-34:10–35:24; Manca at 3-74:25–75:13.

25. Pete Manca, Scott Geng, and Max Smith testified that conception of essential Interframe elements occurred by September 29, 2000—the date of the September 2000 Specification. Manca at 3-72:20–73:4; Geng at 2-153:8–21, 3-13:16–20; Smith at 3-42:2–6, 3-65:15–21.

26. Peter Schulter testified that "after [Cisco] asked [him] a question in [his] deposition," on his own accord he "reread the claims word for word in the'430 patent," "reread Max's spec," and "reread[] all of [his] specs." Schulter at 1-148:17–149:10, 1-161:13–17. He "concluded that what was in the claims of the '430 patent there is nothing there I would consider I contributed to." *Id.*

27. The September 2000 Specification represented the state of the Interframe design as of September 29, 2000 and is reflected in the architecture diagram drawn by Scott Geng (JX70). Geng at 2-168:2–2-175:5, 3-4-22–13:20; Jones at 3-128:2–7; JX70. The September 2000 Specification shows that between June 30 and September 29, 2000, the inventors decided to:

- Deploy Giganet as the Interconnect between the AP Nodes and IFC Nodes;
- Simulate MAC addresses for internal Interframe network use only;
- Handle external messaging with code on the IFC node called I/O Server Logic;
- Use simulated routers in I/O Server Logic for external network communication; and
- Use network interface cards ("NICs") with unique, OEM-provided MAC addresses.

Geng at 2-169:14–175:5; JX15 at 1, 3, 4, 6.

28. The selection of Giganet meant that the internal network protocol would differ from the external Ethernet network protocol to which the Interframe connected. As a result, it is undisputed that something had to connect the different, incompatible networks and translate between the different protocols used by each. Manca at 3-83:14–84:16, 3-85:24–86:4; JX15 at 1, 6; *see also* Jeffay at 2-15:9–23, 2-20:13–21.

29. The simulation of MAC addresses internally also meant that something would be needed to replace the simulated MAC addresses with the external MAC address of the NIC for messages directed outside the Interframe. Geng at 3-9:7–13:15; Smith at 3-37:21–39:17; JX15 at 6.

30. Egenera solved both the Giganet and MAC address issues with simulated routers (also called "edge routers") programmed to operate as described in the September 2000 Specification. Geng at 2-173:3–175:5, 3-4:22–6:23, 3-9:7–13:15; JX15 at 3, 8.

3. The Simulated Router of the September 2000 Specification

31. The simulated router was part of I/O Server Logic code on the IFC Node that handled messages entering and leaving the Interframe. Schulter at 1-140:25–141:18, 1-142:24–143:24; Geng at 2-174:4–22.

32. Max Smith explained that there were "three important functions that had to be performed on message traffic departing the" Interframe by the simulated router code on the IFC Node:

> <u>*First*</u> of all, messages which are to depart the frame would have to be identified and found. The <u>*second*</u> thing is that those messages would need to be prepared for the external network, which meant that they needed MAC addresses that were consistent with the external network. And <u>*finally*</u>, those messages would be given to physical Ethernet drivers to be transmitted on the external network.

Smith at 3-36:12–37:10 (emphasis added); *see also* PDX25; JX15 at 1, 6, 8.

33. Mr. Smith's explanation of the algorithm for modifying messages to transmit them to the external network is nearly identical to Cisco's explanation of that process in its opening claim construction brief (Dkt. 65 at 23 (citations excluded)):

> The virtual LAN proxy is tasked with modifying messages bound for the external communication network based on a simple rule: it "receives outgoing 55 packets (ARP or otherwise) from a virtual LAN server 335, [and] it replace[s] the internal format MAC address with the MAC address of the physical Ethernet devices 129 as the source MAC address." In other words, the virtual LAN proxy receives messages from the virtual LAN server, modifies them, and transmits them to the external communication network via the physical LAN interface (driver).

34. Dr. Jones confirmed that Egenera's simulated router was designed "to receive or

terminate the connections in the virtual network, and then take those packets, those messages, and modify them, as we'll see, to replace the MAC address, and hand them off to the driver and out the Ethernet card to the external Ethernet." Jones at 3-128:8–22, 3-130:8–133:17.

35. Identifying, modifying, and transmitting is "the only order that makes sense"; other orders would not work. Geng at 3-16:17–25; Smith at 3-64:24–65:6; Jones at 3-135:4–15.

a. Part of the Simulated Router Ended Internal Segments

36. The first of the "three important functions" performed by the simulated router was that the outgoing "messages which are to depart the frame would have to be identified and found," also referred to as "terminat[ing] the connections in the virtual network" or the internal Ethernet segments. Smith at 3-36:12–37:10; Jones at 3-130:8–131:16; PDX25; JX15 at 3, 6.

37. Code "that was terminating the internal network and figuring and finding the packets that were destined for this router . . . was definitely a part of the simulated router that Max described" in the September 2000 Specification. Geng at 3-16:10–16. The inventors "knew that internal messages had to get terminated at the IFC" and then be "modified and moved." Manca at 3-86:22–87:4. As the September 2000 Specification teaches, "none of our simulated Ethernet segments depart the confines of the system." JX15 at 6.

38. The virtual LAN server code in the '430 patent terminated internal Ethernet segment for externally-bound messages and handed outgoing packets off for modification by the virtual LAN proxy. Manca at 3-86:13–19; Jones at 3-121:13–22.

b. Part of the Simulated Router Replaced MAC Addresses

39. The second of the "three important functions" performed by the simulated router was that outgoing "messages would need to be prepared for the external network, which meant that they needed MAC addresses that were consistent with the external network." Smith at 3-36:12–23. So, the simulated router would "take those packets, those messages, and modify them . . . to

replace the MAC address." Jones at 3-130:8–131:16; *see also* PDX25; JX15 at 6.

40. The inventors had to replace "the source [simulated] MAC address in the Ethernet header on the way out." Schulter at 1-132:19–133:24. Failing to replace the simulated MAC address with a globally-unique address would cause problems like "miscommunications, loss of data, loss of packets, [and] no communications at all in some cases." Schulter at 1-134:3–17, 1-141:19–142:23; Geng at 3-8:4–13, 3-9:4–13:10; Jones at 3-132:19–133:6.

41. The September 2000 Specification teaches: "[o]ur simulated MAC addresses, however, need only be unique within a single Egenera Interframe system, as none of our simulated Ethernet segments depart the confines of the system." JX15 at 6. This type of private, internally-unique MAC address was well known and allowed by the Internet Engineering Task Force ("IETF") if the address was not released externally. JX15 at 6; Smith at 3-37:21–39:17.

42. Replacing MAC addresses was trivial and well known—it took few lines of code and was part of Linux since at least 2002. Schulter at 1-135:1–6, 1-136:17–137:2; Jones at 3-133:7-17.

43. The September 2000 Specification teaches that code on the "Interframe controller nodes perform all actual I/O *<u>on behalf of</u>* the entire system," meaning that the IFC Nodes act as a proxy. Jones at 3-129:13–130:1; Geng at 3-14:24–15:5; JX15 at 1.

44. A proxy is a generic concept; it is an intermediary between two elements and does something on behalf of one element. Schulter at 1-121:22–122:2, Jeffay at 2-107:23–108:4; Geng at 3-14:1–7; Manca at 3-83:1–8. Proxies were well known in 2000. Schulter at 1-122:3–5; Geng at 3-14:10–11; Manca at 3-81:15–17; Jeffay at 2-108:8–20. Technical dictionaries in 1999 provided a definition of a proxy. Schulter at 1-123:22–24, 1-124:9–14; JX64; JX67.

45. As Cisco conceded, a person of ordinary skill in the art in September 2000 understood that a proxy could: (1) receive, translate, and transmit messages; (2) make a message appear like

it originated from somewhere else; and (3) come in different types. Jeffay at 2-108:24–109:14.

46. The virtual LAN proxy is a type of proxy that acts on behalf of virtual LANs—for example, the internal AP Nodes. Schulter at 1-135:7–16; Geng at 2-148:2–5. The virtual LAN proxy "prox[ies] the communication[s] for the virtual LAN" by acting as "an intermediary between the virtual LAN and the external network." Geng at 2-148:2–5; Jones at 3-121:9–12. Calling it a "virtual LAN" proxy is merely "a descriptor of the type of proxy" implemented. Geng at 3-14:20–23, 3-15:6–15; Manca at 3-81:18–82:10, 3-84:17–22.

47. "The virtual LAN proxy would replace the source MAC of the outgoing packet with the source packet the [AP Node] had put on the packet which was the internal MAC address with the MAC address of the physical interface" used for transmission. Schulter at 1-123:2–8.

48. Although the September 2000 Specification does not use the phrase "virtual LAN proxy"—and therefore nothing in this Specification "resembles" the '430 patent virtual LAN proxy section (linguistically)—Max Smith explained that the Specification does disclose the virtual LAN proxy function and structure. Smith at 3-33:13–22, 3-39:24–40:10, 3-46:7–15.

49. Pete Manca, Scott Geng, Max Smith, Peter Schulter, and Dr. Mark Jones all explained that Egenera's simulated router included a virtual LAN proxy. Manca at 3-85:18–23, 3-92:3–21; Geng at 3-15:20–24; Smith at 3-39:24–40:10; Schulter at 1-143:25–144:14; Jones at 3-130:2–7.

c. Part of the Simulated Router Transmitted to External Network

50. The third of the "three important functions" performed by the simulated router was that outgoing "messages would be given to physical Ethernet drivers to be transmitted on the external network" or to "hand them off to the driver and out the Ethernet card to the external Ethernet." Smith at 3-36:12–37:10; Jones at 3-130:8–131:16; PDX25; JX15 at 1, 3, 8.

51. An Ethernet (NIC) card plugs into a computer and a driver is software that interfaces the operating system and the card. Jones at 3-128:23–129:9. This was referenced in the June 2000

Specification. Geng at 2-165:3–25; JX13 at 8. By the time a message gets to the driver/card, it has been modified for transmission. Jones at 3-131:9–16.

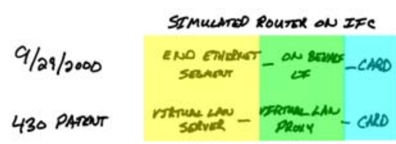
52. As Dr. Jones explained "the particular structure within the simulated router as it interfaces with a physical LAN driver and a card was known, that specifically was known to people of skill in the art prior to September 2000." Jones at 3-175:7–16. Cisco's Dr. Jeffay agreed that "[t]he physical LAN driver" was "absolutely known." Jeffay at 2-69:22–25.

d. The Simulated Router Included a Virtual LAN Proxy Connected to a Virtual LAN Server and Physical LAN Driver

53. The virtual LAN server and virtual LAN proxy are code or software running on the IFC Node. Schulter at 1-134:18–25; Geng at 3-16:10–16; Manca at 3-87:5–13.

54. Pete Manca, Scott Geng, and Max Smith explained the simulated router included a virtual LAN server and virtual LAN proxy. Manca at 3-87:5–13 ("same functionality and the same structure"); Geng at 3-15:20–24 ("absolutely did" include "a virtual LAN proxy"), 3-16:10–16 ("virtual LAN server" "definitely a part of the simulated router"); Smith at 3-40:5–10 ("proxies and servers mentioned in the patent are components of this simulated router"); 3-41:22–42:1.

55. The simulated router and its three components (virtual LAN server, virtual LAN proxy, and driver) were conceived to be code or software running on the IFC Node. Schulter at 1-140:25–141:18, 1-142:24–143:24; Geng at 2-174:4–22; Smith at 3-36:12–37:10. As Max Smith illustrated, the simulated router was conceived to include a virtual LAN proxy connected to a virtual LAN server and physical LAN driver. Smith at 3-40:20–42:1, 3-64:24–65:12; PDX25 (highlighting added above).



56. Max Smith explained that ordering the virtual LAN server to end internal segments, the virtual LAN proxy to act on behalf of application nodes, and the physical network interface card,

"could not be put in another order." Smith at 3-65:7–12; 3-41:13–21; *see* Manca at 3-86:20–21.

D. Peter Schulter's Work at Egenera

1. Egenera Hired Peter Schulter to Code and Implement Networking

57. Peter Schulter had sixteen years of networking experience with various standards before starting with Egenera on October 2, 2000. Schulter at 1-80:2–3, 1-83:4–9. He was hired to be a coder; he was hired because of his ATM, LANE, and Giganet standard knowledge; and he was hired to implement the Interframe's networking subsystem. Schulter at 1-125:4–19; Manca at 3-71:21–72:1. Egenera needed extra resources due to product delivery schedules. Schulter at 1-75:17–76:16, 1-84:3–8, 1-125:20–126:18, 1-137:3–13; Jeffay at 2-86:18–22; Manca at 3-72:2–9.

58. Upon joining Egenera, Peter Schulter read the September 2000 Specification and spoke with inventors about the Interframe architecture; Mr. Schulter was primarily concerned with redundancy, reliability, and failover of the system—as opposed to networking, which would just be an implementation of the LANE standard. Schulter at 1-126:19–127:11.

2. Peter Schulter Authored Interframe Network Architecture V0.1 Based on What He was Informed About the Interframe

59. Before Max Smith left for vacation, he brought Peter Schulter up to speed on the Interframe and the September 2000 Specification. Smith at 3-49:12-17. After talking with Max Smith and other inventors about the September 2000 Specification, Peter Schulter authored Version 0.1 of the Interframe Network Architecture document. Schulter at 1-129:6–16.

60. Peter Schulter released Version 0.1 on October 9, 2000, <u>*five business days after he joined Egenera*</u>, to verify his understanding of the Interframe architecture before Mr. Smith left for vacation. Schulter at 1-129:17–130:19. Although Peter Schulter is listed as the author of this document, some concepts were contributed by others. Schulter at 1-131:7–10.

61. Peter Schulter explained that the Virtual Network Stub in Version 0.1 of the Interframe

Network Architecture document would terminate internal logical connections. Schulter at 1-140:8–18. The Stub was based on public standards. Schulter at 1-140:19–24.

62. Although he is unsure who coined the term "LAN Proxy," Peter Schulter testified that the LAN Proxy section in Version 0.1 was written based on his understanding of what was required to get a packet in and out of the Interframe over the physical Ethernet interface. Schulter at 1-131:17–132:10, 1-135:25–136:3. That section was based on the September 2000 Specification, conversations with people at Egenera, and Ethernet knowledge generally. *Id.*

63. The LAN proxy and simulated router were equivalent code running on the Interframe but with different names. Schulter at 1-143:25–144:14. Like the LAN Proxy, "one of the side effects of a simulated router, and this is what routers do even between two Ethernet segments that are isolated by the router, is they replace the MAC header." *Id.* The virtual LAN proxy could have even been called "a b-router." Schulter at 1-135:17–24. This is because the LAN Proxy's routing functionality acts as an intermediary between two networks, Schulter at 1-135:7–16, just as a proxy acts as an intermediary. Schulter at 1-121:22–122:8.

64. The virtual LAN proxy changed names during development of the Interframe, starting as a "simulated router" and later becoming "VeRN Proxy," but the function and structure remained unchanged. Schulter at 1-135:17–24, 1-136:4–16; Manca at 3-84:23–85:3.

65. Version 0.1 of the Interframe Network Architecture document describes the Virtual Network Stub, LAN Proxy, and Physical Network Interface as follows (JX18 at 13–14):

Virtual Network Stub	LAN Proxy	Physical Network Interface
"For packets coming from the AP, the VNS will simply pass the packets to the LAN proxy for processing"	"The LAN Proxy performs the basic co-ordination of the physical network resources . . . and [] co-ordinate[s] the allocation and removal of MAC addresses"	"Packets being sent on the interface will be queued to the device . . . generic Linux network device drivers can be used"

66. Peter Schulter explained that the diagram on page 11 of Version 0.1 came from the

September 2000 Specification, discussions with the team, and existing public standards. Schulter at 1-88:11–15, 1-88:25–89:5, 1-139:4–140:7. Nothing in the diagram was unknown to the inventors, other than possibly the application of those standards. *Id.*

3. V0.2 through V1.0 of the Interframe Network Architecture Documents Include Similar Message Modification Descriptions

67. For each version of the Interframe Network Architecture, Peter Schulter does not recall who came up with the specific ideas. Schulter at 1-130:23–131:16. Although Peter Schulter contributed to the implementation of the Interframe, including the coding of the already-defined structural components of the simulated router, Schulter at 1-125:4–24, he unequivocally testified that he did not contribute to the structure underlying the Interframe's basic function of modifying messages for transmission to an external communication network:

> Q. Mr. Schulter, what new ideas do you recall contributing to the functionality of modifying messages destined for the external communication networks in the Interframe?
>
> A. None.
>
> Q. Who came up with the idea for the control node to modify messages before transmitting those messages onto an external communication network like the internet?
>
> A. That was in Max's specification of September 2000.
>
> Q. Okay. Who came up with the idea to use routing functionality on the Interframe control node?
>
> A. That was also specified in Max's I/O Architecture spec.
>
> ***
>
> Q. Who came up with the idea to use the Interframe control node to replace MAC addresses from messages before transmitting those messages onto an external communication network?
>
> A. That was specifically stated in Max's spec

Schulter at 1-121:9–19, 1-122:9–12.

68. Peter Schulter did not change the basic function, structure, or arrangement of message modification capabilities. Jones at 3-133:18–135:3, 3-135:16–136:5. The various Interframe

Network Architecture versions describe (using different names) the same or equivalent structure as the simulated router in the September 2000 Specification in terms of receiving messages from the internal network ("several names" including VeRN Server), modifying messages by replacing MAC addresses (LAN/virtual LAN/VeRN Proxy), and transmitting messages (card/driver). *Id.* Changes to software modules were "different than the fundamental core architecture relating to 'logic to modify.'" Jones at 3-163:2–23. Dr. Jeffay could offer no opinion as to any differences among the various Interframe Network Architecture versions, including those that pre-date his supposed conception date. Jeffay at 2-127:23–128:14.

69. The diagrams in each Interframe Network Architecture version confirm that: (1) Virtual Network Stub became known as VLAN ARP Server and then VeRN Server; (2) LAN Proxy became known as VeRN Proxy; and (3) Physical LAN Driver was synonymous with Physical Network Interface. JX18 at 11, 14; JX21 at 14, 20–21; JX22 at 14, 22; JX20 at 19, 29.

70. And as can be seen from the table below, each of the Interframe Network Architecture documents discloses the same structure for receiving, modifying, and transmitting messages.

	Receive Messages	**Modify Messages**	**Transmit Messages**
V0.1 JX18 at 13–14	Virtual Network Stub ("For packets coming from the AP, the VNS will simply pass the packets to the LAN proxy for processing")	LAN Proxy ("The LAN Proxy performs the basic co-ordination of the physical network resources . . . and [] co-ordinate[s] the allocation and removal of MAC addresses")	Physical Network Interface/LAN Driver ("generic Linux network device drivers can be used")
V0.2 JX21 at 19–20	VLAN ARP Server ("If the IP address is not recognized then the packet will be relayed to the VLAN Proxy.")	LAN Proxy (same as V0.1); ("When the VLAN Proxy receives an outgoing packet, it will replace the source MAC address with that of the physical Ethernet interface. It will then queue the packet to the physical Ethernet driver.")	Physical Network Interface/LAN Driver (same as V0.1)

	Receive Messages	Modify Messages	Transmit Messages
V0.3 JX22 at 21–22	VLAN ARP Server (same as V0.2)	LAN Proxy (same as V0.2)	Physical Network Interface/LAN Driver (same as V0.1)
V1.0 JX20 at 28–29	VeRN Server (“it will relay the packet to the external network”)	VeRN Proxy (same as V0.3 but replace LAN/VLAN with VeRN)	Physical Network Interface/LAN Driver (same as V0.1)

71. Mr. Schulter’s work did result in other inventions: the failover-related ’044 patent and the ARP-related ’390 patent. Schulter at 1-146:3–25; Manca at 3-80:5–7; JX10; JX11.

72. Concepts in the Interframe Network Architecture documents were well known by 2000, including: (1) the “many different existing standards” used to implement the virtual LAN server; (2) the functions of a proxy; (3) the use of a server connected to a proxy connected to physical driver (based on LANE standard and routers); (4) servers, LANs, proxies, and physical LAN drivers; and (5) the IETF as “a body that helps promulgate standards.” Schulter at 1-96:23–97:3, 1-118:24–119:1, 1-123:9–18, 1-127:18–128:4, 1-138:2–139:3; Jeffay at 2-14:2–10, 2-69:22–70:6, 2-87:9–22, 2-89:4–22; Geng at 3-24:19–22; Smith at 3-55:10–19, 3-59:10–17.

73. Dr. Jeffay admitted that persons of ordinary skill in the art presented with LANE, MPOA, and IEEE standards in September 2000 would have been able to implement them. Jeffay at 2-91:21–25. Dr. Jeffay also agreed that Linux included router and proxy code that persons of ordinary skill in the art in September 2000 would have been able to use. Jeffay at 2-91:12–20.

IV. ULTIMATE CONCLUSIONS OF LAW

74. Cisco failed to meet “the high bar” of “the clear and convincing standard . . . to rebut the presumption of validity” as required to show that Mr. Schulter should be included as an inventor of the ’430 patent. *See Commil*, 135 S. Ct. at 1929; *Nartron*, 558 F.3d at 1356. Although Peter Schulter was involved in the reduction to practice of the claimed inventions, including the

relevant structure for the "logic to modify . . . to transmit" term, Cisco failed to meet its burden to show he was involved in conception of the claims. *Eli Lilly*, 376 F.3d at 1359; *Burroughs*, 40 F.3d at 1227–28; *Bard*, 670 F.3d at 1201; *Ethicon*, 135 F.3d at 1460, 1463.

75. The "logic to modify" term, 22 words out of 318 in claim 1, has been construed to be a means-plus-function term. The function is "modify said received messages to transmit said modified received messages to the external communication network and to the external storage network" and the structure is "'virtual LAN server 335, virtual LAN proxy 340, and physical LAN driver 345' and equivalents for messages to the external communications network." Dkt. 85 at 19, 26. The "modifications" are those made for the purpose of transmitting modified messages to the external network. Jones at 3-118:6–9; Jeffay at 2-98:19–99:3, 3-180:5–8.

A. Peter Schulter Did Not Conceive of "Logic to Modify . . . to Transmit"

76. Cisco was required to prove conception by Peter Schulter, but the evidence demonstrates that Mr. Schulter did not conceive of any of the '430 patent claims. *See Eli Lilly*, 376 F.3d at 1359; *Burroughs*, 40 F.3d at 1227-28; *Bard*, 670 F.3d at 1201; *Ethicon*, 135 F.3d at 1460, 1463.

77. Peter Schulter explained that he was not an inventor of the claims. *See* Section III.C.2. From his testimony alone "it would be impossible on the record before the Court to find by clear and convincing evidence that [he] was a non-joined co-inventor." *Mueller*, 352 F. Supp. at 1374; *see also Pandora*, 2008 U.S. Dist. LEXIS 61064, at *18-19; *Cook*, 460 F.3d at 1371, 1381. In fact, the only witness that testified otherwise was Cisco's hired expert—Dr. Jeffay.

78. It is undisputed that identifying corresponding structure for the "logic to modify" term in the September 2000 Specification is not a word-matching exercise—the question is whether the Specification discloses the same or equivalent structure. Carmichael at 1-32:7–21; Jeffay at 2-72:23–73:4. It is conceded that different people at Egenera preferred different names—Max Smith preferred simulated router and Peter Schulter preferred virtual LAN proxy and virtual

LAN server. Manca at 3-85:10–17. Regardless of names, the simulated router in the September 2000 Specification is the same or equivalent structure as the virtual LAN server, virtual LAN proxy, and physical LAN driver and performs the same functions—ending internal Ethernet segments, replacing MAC addresses, and handing off messages for transmission, respectively. *See* Section III.C.3. Exhibit PDX25, drawn by Max Smith, shows the corresponding structure between the simulated router and'430 patent. Smith at 3-40:20–42:1, 3-64:22–65:12; PDX25.

79. Peter Schulter's testimony and documents demonstrate that any structure he implemented came from his understanding of the existing Interframe gleaned from documents and others already at Egenera—"a reduction to practice of the sole inventor's broader concept." *Ethicon*, 135 F.3d at 1463. As seen in the chart below, his contributions relevant to "logic to modify" included the same or equivalent structure from October 9, 2000 onward, which is the same or equivalent to that found in the September 2000 Specification and the '430 patent (also shown below). Thus, Peter Schulter is not an inventor because he described in his first week at Egenera, "without unduly extensive research or experimentation," what the Egenera team had already conceived. *Sewall*, 21 F. 3d at 415; Manca at 3-86:5–12.

Document	**Ending Internal Ethernet Segment**	**Replacing MAC Addresses**	**Handing off to Physical Driver/Card**
September 2000 Specification	Simulated Router	Simulated Router	Simulated Router
Interframe Network Architecture	Virtual Network Stub / VLAN ARP Server / VeRN Server	LAN Proxy / VeRN Proxy	Physical Network Interface/LAN Driver
'430 Patent	Virtual LAN server	Virtual LAN proxy	Physical LAN driver

80. Dr. Jeffay cautioned that in his experience the people involved in technical systems better understand internal documents describing the system than other people. Jeffay at 2-113:14–22, 2-114:20–115:2. Dr. Jeffay's experience applies here: the inventors and Mr. Schulter—people present at Egenera in the 2000 timeframe—understand the September 2000 Specification best.

81. Finally, any suggestion that Egenera removed Peter Schulter to avoid prior art in Cisco's IPR petition (*e.g.*, Jeffay at 2-92:7–16) is disproven by the timeline of events. After Cisco previously argued that conception was not complete until November 7, 2000, Dkt. 143 at 9, its expert was non-committal as to conception date during trial, but suggested possibly December 2000, Jeffay at 2-61:9–18. But the evidence shows Mr. Schulter's papers contained the same structure dating back to October 9, 2000, *before Grosner*, which is dated November 2, 2000. *See* Section III.D.3; Dkt. 199 at 2. There was no reason for Egenera to remove Mr. Shulter if its motivation was simply to swear behind Grosner. Egenera could have left Mr. Schulter as an inventor, and still shown a conception date prior to Grosner. Manca at 3-98:3–13. Egenera removed Peter Schulter because its conception analysis showed that he was not an inventor—and prevented Cisco from arguing invalidity based on inventor misjoinder. *See* Section I.

B. The Evidence Shows That the "Logic to Modify . . . to Transmit" Structure and Function were Well Known

82. The "logic to modify" structure and function—including code to perform the steps of identification, modification, and preparation for transmission of messages—was well known in late 2000. A joint inventor must "do more than merely explain to the real inventors well-known concepts and/or the current state of the art"—Cisco failed to prove that any portion of "logic to modify" was invented by Mr. Schulter. *Pannu*, 155 F.3d at 1351; *see also Ethicon*, 135 F.3d at 1460; *Caterpillar*, 387 F.3d at 1377; *Sewall*, 21 F.3d at 416; *CardiAQ*, 708 Fed. Appx. at 660.

83. Dr. Jeffay and Mr. Smith agreed that routers were well known at the time, and that all commercially available routers performed the basic steps of identification, modification, and transmission of messages; the publicly available Linux kernel had software to do the same as well. *See* Section III.C.3.d; Jeffay at 2-65:3–8, 2-65:14–66:4, 2-66:14–68:20; Smith at 3-35:25–36:11, 3-36:12–37:20. A person skilled in the art would know that routers modified MAC

addresses—when they route messages they must prepare the correct MAC addresses to send. *Id.* And "virtual" simply means "simulated through software." Geng at 3-14:17–19.

84. Furthermore, Dr. Jeffay testified that "those of ordinary skill in the art knew every element of the asserted claims, individually and as claimed, before the provisional date of April 20, 2001, and any earlier claimed conception date" such as September 29, 2000. Jeffay at 2-116:16–25. He further stated that corresponding structure for "logic to modify" was met by things such as routers, virtual routers, VLAN switches, various software, and more. Jeffay at 2-117:24–118:12, 2-119:20–120:11, 2-121:18–25.

85. Egenera hired Mr. Schulter in part because of his knowledge of standards and well-known principles, which he used to implement the concepts provided by the inventors, including the function and structure for "logic to modify." *See* Section III.D. Given that his work on "logic to modify" structure was based on standards and other "well-known principles or [] the state of the art," Mr. Schulter's work does not make him an inventor. *Ethicon*, 135 F.3d at 1460.

C. Cisco Failed to Meet Its Clear-and-Convincing Evidence Burden

1. Cisco's Newly-Raised Arguments are Unpersuasive

86. Cisco ignored black letter means-plus-function law. For means-plus-function terms, "[one] may not import functional limitations that are not recited in the claim, or structural limitations from the written description that are unnecessary to perform the claimed function." *Welker*, 550 F.3d at 1097 (quotation omitted). Yet Cisco did exactly that: its newly-raised trial arguments related to functions and/or structural limitations not linked to the claimed function. *See also* Dkts. 65, 66, 70, 71 (*Markman* briefs); Dkt. 85 (*Markman* order); Dkts. 141, 163, 190, 135, 167, 196 (MSJ briefs).

87. For instance, based on out-of-context discussions in the file history of the '430 patent, Cisco suggested at trial that Mr. Schulter is an inventor because the virtual LAN server places

information in a TLV header and the virtual LAN proxy uses VLAN ID tags in an alternative embodiment. Jeffay at 2-54:23–57:13. But Cisco failed to ask any fact witness about who contributed either idea and failed to articulate how Mr. Schulter conceived of either idea given that, even if mentioned in document authored by Mr. Schulter, those documents are based on collaborative work and ideas cannot not be attributed to particular sources. Schulter at 1-130:23–131:16; *see also* Geng at 2-154:18-23; Manca at 3-74:6–18. Cisco also failed to explain how either idea is inventive given that both are standards-based. JX20 at 24 ("The extra packet encapsulation will use the standard IETC TLV (Type Length Value) format."); Geng at 3-30:15–19 (VLAN IDs come from IEEE standards); JX01 at 18:46–48 (similar). Finally, Cisco presented no evidence that TLV header work is done for the purpose of transmitting messages externally.

88. Cisco continues to conflate authorship with inventorship, which is legally improper, *In re Katz*, 687 F.2d at 455; *Yeda Research*, 443 F. Supp. at 603 n.55 603, and factually erroneous given the testimony about the origination of ideas in Mr. Schulter's documents, Section III.D.

89. The "data link layer bridge" is another part of the virtual LAN server that Cisco raised at trial as purported evidence of Mr. Schulter's inventorship. Jeffay at 2-27:4–28:22. Cisco latches onto the data link layer bridge because Mr. Geng stated it was "Pete's idea[] to implement a bridge at the data link layer to minimize latency." JX58 at 3.

90. The data link layer bridge is not a part of the structure for modifying messages for external transmission because the data link layer bridge services <u>*incoming*</u> traffic. As the '430 patent specification (JX01) expressly states at column 15, lines 15–26 (emphases added):

> The virtual LAN server 355 <u>*services the external connection*</u> by effectively acting as a data link layer bridge in that it moves packets between the external Ethernet driver 345 and internal processors and performs no IP processing. However, unlike like a data link layer bridge, the server cannot always rely on distinctive layer two addresses <u>*from the external network to internal nodes*</u> and instead the connection may use layer 3 (IP) information to make the bridging decisions. To do this, the external connection software

> extracts IP address information from *incoming* packets and it uses this information to identify the correct node.

91. Scott Geng, who has been involved with the BladeFrame product for nearly eighteen years, Geng at 2-148:8–11, explained that the layer 2 bridge in the ’430 patent specification is exclusively for incoming traffic, Geng at 3-29:22–3-30:13. Dr. Jones confirmed Mr. Geng’s analysis: the layer 2 bridge services “packets that are coming from the external network into the internal network.” Jones at 3-122:16–3-123:8. The Interframe Network Architecture documents describe a “datalink layer” bridge and makes clear that the bridge services only incoming messages. JX21 at 19 (explaining that the datalink layer bridge must “extract [layer 3] IP address information from incoming packets); JX22 at 20 (same); JX20 at 27 (same). Dr. Jeffay said nothing about the direction of messages handled by the “data link” layer bridge.

92. Cisco presented no evidence that the data link layer bridge modifies messages. Al though the ’430 patent describes the data link layer bridge as “mov[ing] packets” and “extract[ing] IP address information,” it does not suggest that the data link layer bridge modifies externally-bound messages. JX01 at 15:15–26. In fact, the only evidence regarding the purpose of the data-link layer bridge is that it reduces latency. JX58 at 3 (“Pete’s idea[] to implement a bridge at the data link layer to minimize latency . . . .”).

93. Cisco also presented no evidence that using layer 2 bridging technology to identify the correct processing node to receive incoming packets was inventive. Mr. Schulter, on the other hand, explained that a data link layer bridge was well known in 2000. Schulter at 1-123:19–21. Cisco’s technical expert agreed. Jeffay at 2-87:23–88:2.

94. No testimony suggested that adding the ability for a layer 2 bridge to look at the layer 3 network addresses was inventive. In fact, Cisco’s technical expert testified that the layer 3 inspection was required, given the constraints of the BladeFrame product. Jeffay at 2-27:24–

28:12 ("[T]o ensure that ambiguity doesn't occur, this data link layer bridge is going to have to use some layer 3 information to make its bridging decisions.").

2. Cisco's Other Arguments are Also Unpersuasive

a. Fact Witness Testimony

95. Cisco's suggestion that the fact witnesses were biased based on their relationship to Egenera is meritless. JX85. It is ethical and reasonable (and customary) for third-party fact witnesses to be reasonably compensated for their time spent on a litigation. MASS. RULES OF PROF'L CONDUCT R. 3.4(g); ABA Comm. on Ethics & Prof'l Resp., Formal Op. 96-402 (1996).

96. Cisco attempted to impeach Peter Schulter through linguistic parsing of the word "architecture." But Mr. Schulter explained his hesitancy: "I don't consider that I actually developed or even defined the architecture of those components, the arrangement of those components. The arrangement, the data path was defined heavily in Max's spec of September, but most importantly in the ATM LANE standards where there was almost identical arrangement of elements[.]" Schulter at 1-118:2–23, 1-119:7–15.

97. Cisco also attempted, through Pete Manca, to impugn other inventors for not reviewing the September 2000 Specification prior to agreeing to remove Mr. Schulter as an inventor. Their testimony is not surprising though; it was "obvious to everybody" that had worked tirelessly during summer 2000 to develop the Interframe that Peter Schulter "shouldn't be named" as an inventor." JX07; Manca at 3-93:9–94:21, 3-99:1–6; Geng at 3-18:17–23. It was apparent to Mr. Schulter, too: "the basis of the concept of the BladeFrame predated my employment with Egenera, and . . . of course I remember being given Max's spec on my first day of work to read, so the reasoning [Mr. Manca] gave me sounded logical." Schulter at 1-147:14–149:10.

b. The "Layer Cake"

98. Cisco also made much out of networking layers and stacks, such as layer 2 and layer 3—

the so-called "layer cake." *E.g.*, Jeffay at 2-23:3–27:3. Yet Dr. Jeffay admitted that "we don't" "need to know all about those different types of stacks for the purposes of our case." Jeffay at 2-22:21–23:2. The inventors focused on making a product, not layers, during development. Geng at 3-30:23–31:4. In any event, Dr. Jeffay admitted that while routers may operate at layer 3, they also operate at layer 2 and modify MAC addresses—and that Egenera's "simulated router" includes these same layer 2 and 3 operations. Jeffay at 2-65:14–68:20. Max Smith confirmed that routers act at layer 2. Smith at 3-37:11–20.

c. The File History and the USPTO's '430 Patent Allowance

99. The file history of the '430 patent does not suggest that the USPTO allowed the patent solely because of the addition of "logic to modify." Egenera's January 16, 2007 and February 16, 2007 claim amendments added "logic to modify," but those were not the last amendments before the USPTO granted the patent. JX3 at 203–10, 218–36. In a March 29, 2007 telephone call with the examiner, Egenera authorized multiple "examiner's amendments" that further altered the claims prior to approval. *Id*. at 218–36. And in the notice of allowance, the examiner listed all claim terms in combination as the reason for allowance and did not specifically reference the "logic to modify" or any other claim term *Id*.; *see also* Jeffay at 2-142:18–24. Further, Cisco failed to prove that the allowance of the '430 patent after including a claim term that the control node would have "logic to modify" means the function or structure associated with the term is inventive. Finally, Cisco's suggestion that "logic to modify" must be novel as no additional prior art was disclosed is belied by its own expert's testimony: as Mr. Carmichael testified, there is a "duty to disclose, if the applicants were aware of prior art that rendered obvious the amended claims with the new feature" and not the new feature alone. Carmichael at 1-26:19–21, 1-27:1–4.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a copy of this document filed through the Electronic Case Filing ("ECF") system on January 25, 2019, will be sent electronically to the registered participants as identified on the Notice of Electronic Filing.

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